

**AMENDMENTS TO THE CLAIMS:**

The following is a complete list of the claims.

1-37. (Cancelled)

38. (Currently amended) A method of reducing insect infestations, wherein the method comprises introducing into a plant a gene encoding a modified Cry3Bb\* polypeptide, wherein said polypeptide is expressed in an insecticidally effective amount, and wherein said polypeptide comprises one or more point mutations in or near  $\alpha$  helix 4, wherein said one or more point mutations result in at least one amino acid substitution of selected from the group consisting of Leu158 to Arg, Ser160 to Asn, Lys161 to Pro, Arg162 to His, Asp165 to Gly, and Lys189 to Gly, and wherein said modified Cry3Bb\* polypeptide further comprises one or more of the amino acid substitutions selected from the group consisting of His231 to Arg replaced by arginine, Ser311 to Leu replaced by alanine, leucine or threonine, Asn313 to Thr replaced by threonine, Glu317 to Lys replaced by lysine, and Gln348 to Arg replaced by arginine.

39. (Currently amended) A method of preparing a Coleopteran-resistant plant seed, wherein the method comprises the steps of:

- (a) transforming a plant cell with a nucleic acid segment comprising a gene encoding a modified Cry3Bb\* polypeptide wherein:  
said polypeptide comprises one or more point mutations in or near  $\alpha$  helix 4, and wherein said one or more point mutations result in at least one amino acid substitution of selected from the group consisting of Leu158 to Arg, Ser160 to Asn, Lys161 to Pro, Arg162 to His, Asp165 to Gly, Lys189 to Gly, to produce a transformed plant cell;
- (b) producing a transgenic plant from said transformed plant cell; and
- (c) obtaining a Coleopteran-resistant seed from said transgenic plant, wherein said plant seed exhibits increased Coleopteran-resistance as compared to a non-transformed seed;

Serial No. 10/614,076  
Response to FOA dated 09/23/05

and wherein said modified Cry3Bb\* polypeptide further comprises one or more of the amino acid substitutions selected from the group consisting of His231 to Arg replaced by arginine, Ser311 to Leu replaced by alanine, leucine or threonine, Asn313 to Thr replaced by threonine, Glu317 to Lys replaced by lysine, and Gln348 to Arg replaced by arginine.

40. (Currently amended) A transgenic plant comprising a gene encoding a modified Cry3Bb\* polypeptide, wherein said modified polypeptide further comprises one or more amino acids substitutions within loop β1,α8 replaced with one or more amino acids having increased hydrophobicity, wherein said one or more amino acid replacement is selected from the group consisting of His231 to Arg, Ser311 to Leu replaced by alanine, isoleucine, leucine, or threonine, Asn313 to Thr replaced by arginine, histidine, threonine or valine, and Glu317 to Lys replaced by alanine, asparagine, lysine or valine and Gln348 to Arg.
41. (Currently amended) A progeny plant or seed from the transgenic plant of claim 40, 47, 48 or 49, wherein said progeny plant or seed comprises said gene encoding said modified Cry3Bb\* polypeptide.
42. (Previously amended) A seed from the progeny plant of claim 41, wherein said seed comprises said gene encoding said modified Cry3Bb\* polypeptide.
43. (Previously amended) A plant from the seed of claim 41 or 42, wherein said plant comprises said gene encoding said modified Cry3Bb\* polypeptide.
44. (Previously Amended) A method of preparing a Coleopteran-resistant transgenic plant, wherein the method comprises the steps of:
  - (a) obtaining a nucleic acid segment comprising a gene encoding a modified Cry3Bb\* polypeptide, wherein:  
said polypeptide comprises one or more point mutations in or near α helix 4, wherein said one or more point mutations result in at least one amino acid substitution selected from the group consisting of Leu158 to Arg, Ser160 to Asn, Lys161 to Pro, Arg162 to His, Asp165 to Gly, Lys189 to Gly;

Serial No. 10/614,076  
Response to FOA dated 09/23/05

(b) transforming a plant cell with said nucleic acid segment; and

(c) regenerating from said plant cell a transgenic plant, which expresses said modified Cry3Bb\* polypeptide and wherein said transgenic plant is resistant to Coleopteran insects as compared to a non-transformed plant and wherein the transgenic plant is resistant to corn rootworm insects as compared to a non-transformed plant.

45. (Previously presented) The method of claim 44, wherein step a) further comprises operatively linking the gene to a promoter, and introducing said nucleic acid segment into a vector, and wherein step b) comprises transforming a plant cell with said vector.

46. (Currently amended) The method of claim 44, wherein said ~~gene encodes a modified Cry3Bb\* polypeptide wherein the~~ polypeptide further comprises one or more of the amino acid substitutions selected from the group consisting of His231 to Arg replaced by arginine, Ser311 to Leu replaced by alanine, leucine or threonine, Asn313 to Thr replaced by threonine, Glu317 to Lys replaced by lysine, and Gln348 to Arg replaced by arginine.

47. (New) The transgenic plant of claim 40, wherein said one or more amino acid replacement is selected from the group consisting of Ser311 replaced by leucine, Asn313 replaced by threonine, and Glu317 replaced by lysine.

48. (New) The transgenic plant of claim 40 or 47, wherein said modified polypeptide further comprises amino acid substitution of His231 replaced by arginine.

49. (New) The transgenic plant of claim 40 or 47, wherein said modified polypeptide further comprises amino acid substitution of Gln348 replaced by arginine.